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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/675,569	09/29/2000	Ravi P. Singh	10559/292001/P9299-ADI	3025

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EXAMINER	
ROJAS, MIDYS	
ART UNIT	**PAPER NUMBER**
2189	

DATE MAILED: 09/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action Before the Filing of an Appeal Brief	Application No. 09/675,569	Applicant(s) SINGH ET AL.	
	Examiner Midys Rojas	Art Unit 2189	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED _____ FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☐ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
   a) ☐ The period for reply expires _____months from the mailing date of the final rejection.
   b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

   Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☒ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☒ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: *See Continuation Sheet*. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
   The status of the claim(s) is (or will be) as follows:
   Claim(s) allowed: _____.
   Claim(s) objected to: _____.
   Claim(s) rejected: *1-7,9-23 and 27-34*.
   Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____
13. ☐ Other: _____.

Continuation of 3. NOTE: Applicant's arguments with respect to claims 18 and 27 are not being considered since these claims have been amended after a final rejection and the amendment to these claims raise new issues, thus requiring further search and consideration..

Continuation of 11. does NOT place the application in condition for allowance because:
Applicant's arguments with respect to claims 1 and 13 have been considered and are not persuasive.
Regarding Claim 1, Applicant argues that since Mann's trace compression is done on the basis of disruptions in the program flow, few of Mann's trace entries contain address values and so, one of ordinary skill in the art would not turn to those few trace entries for trace comparison. Additionally, applicant argues that a method of trace comparison for compression would depart from Mann's basis for trace compression. However, since some of Mann's traces do involve address values, a trace comparison compression method could still be used for instances where further compression is desired. Therefore, in the combination of Mann in view of Tanihira and further in view of Bachand, the method of trace comparison compression could be an additional compression method.
Applicant also argues that Bachand does not disclose comparing a new branch target address in a first holding register to a stored branch target address in a first end register; or comparing a new branch source address in a second holding register to a stored branch source address in a first adjacent register. However, since in Bachand the address of newly requested data from a cell in the snoop queue (first holding register) is compared to the address of a pending-posted transaction from a cell of the transaction queue (first end register); in the following comparison operation, the next address of the newly requested data would come from a second cell in the snoop queue (second holding register) and this would be compared to the address of a second pending-posted transaction from an adjacent cell in the transaction queue (adjacent end register). Since Bachand uses observation-detection logic, this logic serves the function of a first and second comparator.
For further clarification, the rejection of claim 1 has been explained in more detail below:
Regarding Claim 1, Mann discloses a trace buffer 200 [Fig. 2] circuit comprising: a plurality of interconnected registers [Fig. 3], including a first end register to input and output addresses of fetched instructions during a trace operation [the first register of the trace buffer] a second end register [last register of the trace buffer], and a plurality of middle registers connected between said first end and said second end register;Mann does not disclose a write path to shift an instruction address in one of said plurality of interconnected registers by two registers towards the second end register on a write operation.
Tanihira discloses a system in which double shifting is used [Col. 1, line 59-Col. 2, line 10]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the trace buffer of Mann to allow double shifting of data into the buffer in order to ease data input into the buffer [Tanihira Col. 1, lines 27-40]. In the case where this input bus where implemented in the system of Mann, the system would have to push an input from such input bus into the trace buffer by two registers [double shifting] in order to accommodate one input of double the size of one register.
Mann in view of Tanihira does not teach first and second holding registers, a first and second comparator, or a compression indication circuit to generate an indicator in response to a new input matching a stored input. Bachand et al. discloses a snoop queue 250 with multiple cells ("first holding register and second holding register"), an external transaction queue 240 with multiple cells ("first end register and first adjacent register"), an observation detection logic ("first/second comparator") to compare the address of the new transaction (from the first holding register in the snoop queue) with addresses of earlier-posted transactions (from the first end register in the transaction queue), and a control logic 254 ("compression indication circuit") to enable the blocking bit, which could be the least significant bit, of the new transaction in response to a match signal (Page 3, paragraphs 0037 - 0038). In this system, a second comparison operation would be performed and so, the next address of the newly requested data would come from a second cell in the snoop queue (second holding register) and this would be compared to the address of a second pending-posted transaction from an adjacent cell in the transaction queue (adjacent end register). Since Bachand uses observation-detection logic, this logic serves the function of a first and second comparator.
It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the comparison and blocking operations of Bachand et al. with the system of Mann in view of Tanihira because doing so would give the system coherency capabilities and thus allow the trace buffer to avoid storing redundant trace data. Since a trace buffer has limited storage capacity, compression of the captured trace data is desirable [Mann, Col. 18, lines 10-15].

Regarding Claim 13, Applicant argues that neither Mann no Tanihara describe or suggest a pipelined processor. However the processor of Mann discloses parallel processing attributes (Figure 2). Additionally, applicant argues that since Mann's trace entries are specified to be 20 bits in length, then there is no need to shift the address by two registers in a write operation. However, in having the ability to perform the shift operation as that of Tanihara, Mann's division of the target addresses in order to fit it into the 20-bit entry would be unnecessary, thus simplifying the process. .

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9/12/05

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